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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/769,385	01/30/2004	Tientch Chen	200312792-1	8388
22879 7590 12/21/2007 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			EXAMINER TSOY, ELENA	
			ART UNIT 1792	PAPER NUMBER
			NOTIFICATION DATE 12/21/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<p align="center">Advisory Action Before the Filing of an Appeal Brief</p>	<p>Application No. 10/769,385</p>	<p>Applicant(s) CHEN ET AL.</p>	
	<p>Examiner Elena Tsoy</p>	<p>Art Unit 1792</p>	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 07 December 2007 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: _____.
Claim(s) objected to: _____.
Claim(s) rejected: _____.
Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See Attached.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). _____
13. ☐ Other: _____.

Advisory Action

The Request for Reconsideration filed on December 7, 2007 under 37 CFR 1.116 in reply to the final rejection has been considered but is not deemed to place the application in condition for allowance for the reasons of record set forth in the Final Office Action mailed on 10/09/2007.

Response to Arguments

Applicants' arguments filed December 7, 2007 have been fully considered but they are not persuasive.

Rejections Under 35 U.S.C. § 103

The combination of references fails to teach modifying a pre-modified silica particle.

(A) Applicants maintain their arguments that none of cited references teach modifying a pre-modified silica particle. Hirose teaches the treatment of silica with metal oxide or organic groups for use in a printing medium. Hirose does not teach a sequence of steps that includes cationizing the silica and modifying the cationized silica with an organosilane reagent as required by independent claims 1 and 15. Abe also teaches the use of cation-modified silica in ink-jet sheets by specifically referring to Alexander for the method of cationizing the silica. Alexander outlines a basic reaction scheme for cationizing silica in an aqueous solution. However, neither Abe nor Alexander teaches the steps of cationizing silica and also modifying the cationized silica with an organosilane reagent as required by the present invention. Further, Santo uses aluminum hydrate dispersion instead of a silica dispersion as required by the present method. None of the references cited by the Examiner teach the steps of cationizing the surface of the silica and modifying the silica with an organosilane reagent).

The Examiner maintains the response to the arguments. Combination of Santo et al, Abe et al and Alexander meets all three basic criteria of a prima facie case of obviousness. Hirose teaches cationizing silica with either cationic metal oxides or silanes. It is well settled that *combining* both treatments and a *proper sequence* of adding ingredients including claimed order (applying metal oxides first then silanes) is prima facie obvious in the absence of showing of criticality. Therefore, (i) a **combination of treatments** would be obvious to one of ordinary skill in the art; (ii) claimed **sequence of treatments** would be also obvious. Santo is applied to show that claimed order have other advantages. Thus, in contrast to Applicants argument, there is a suggestion or motivation to combine cited references. One of ordinary skill in the art would have reasonable expectation of success because Abe et al and Alexander show that claimed method of applying metal oxides was well known in the art. And finally, the cited prior art teaches or suggests all the claim limitations.

(B) Applicants assert that Santo cannot be combined with Hirose because surfaces of alumina particles in Santo are not the same as silica particles in Hirose partially covered by alumina. The actual surface chemistry is well known and consists of oxygen bonding to the silicon atom as the ethoxy group leaves. The alumina hydrate disclosed in Santo is not the same basic aluminum um chloride disclosed in Alexander.

The Examiner respectfully disagrees with this argument. First of all, as was discussed in paragraph 2, (ii) of the Office Action mailed on 6/21/2007, Alexander was incorporated by Abe to show that a cation-modification of colloidal silica for the use in an ink receiving layer by coating with a hydrous metal oxide such as hydrous aluminum oxide (alumina hydrate) can be carried out by the method described in US 3,007,878 to Alexander et al using basic aluminum

chloride. In other words, *basic aluminum chloride was used to form alumina hydrate on the surface of the silica*. Therefore, in contrast to Applicants assertion, *alumina hydrate* particles of Santo and *alumina hydrate* coated silica particles of Hirose have on their surface the same alumina hydrate not aluminum chloride or aluminum chloride hydrate, as asserted by the Applicants. Second, it is well known in the art that the surface chemistry of bonding ethoxysilane to *any* surface having **hydroxyl** groups is the same, and consists of oxygen bonding to the surface atom as the ethoxy group leaves. Like silica, alumina and alumina hydrate have hydroxyl groups on their surfaces, and ethoxysilane bonds to their surfaces through the same surface chemistry as in silica. Therefore, the references cited by the Examiner teach the steps of cationizing the surface of the silica and then modifying the silica with an organosilane reagent, and a prima facie case of obviousness with respect to pending claims has been met.

(D) Applicants assert that in an attempt to combine the references to meet the presently pending claims, has compared an alumina hydrate used to form a surface activated silica particulate (i.e. a coating) to an alumina hydrate particle. Therefore, Hirose, Abe et al and Alexander can be viewed as being directed to activating a silica particle with a surface activating agent, and Santo is directed to surface-treating alumina hydrate particles.

The argument is unconvincing. In contrast to Applicants argument, a silica **particle** of Hirose, Abe et al and Alexander that is encapsulated in an alumina hydrate surface activating agent would be a **particle** having alumina hydrate surface. Therefore, Hirose, Abe et al and Alexander can be viewed as being directed to a **particle** with alumina hydrate surface, and Santo is also directed to particle with alumina hydrate surface.

(C) Applicants assert that the actual surface chemistry can be represented according to scheme (I).

The Examiner respectfully disagrees with this argument. The Examiner takes official notice that it is a common knowledge in the art that aminoalkylethoxysilane (which is a conventional silane coupling agent) bonds to the surface having OH groups by reacting ethoxy groups with OH groups, as evidenced by Hirose that teaches that aminoethoxysilane has functional group (i.e. ethoxy group) that reactive to a silanol group (i.e. OH groups) on the surface of silica (See column 4, lines 22-26). Therefore, the actual surface chemistry is of a *different* scheme than scheme (I).

(D) All other arguments are rephrased arguments previously discussed by the Applicants.

The Examiner respectfully disagrees with this argument for the reasons discussed above and in previous Office Actions.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Thursday, 9:00AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy, Ph.D.
Primary Examiner
Art Unit 1762

ELENA TSOY
PRIMARY EXAMINER
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December 14, 2007